

REMARKS

Reconsideration and allowance of the subject application are respectfully requested. Upon entry of this Amendment, claims 1-33 are all the claims pending in the application. In response to the Office Action, Applicant respectfully submits that the claims define patentable subject matter.

I. Overview of the Office Action

Claim 23 is rejected under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter. Claims 1-3, 5, 7-9, 11-14, 16, 18-20, 22-25, 27, 29-31, and 33 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nara (U.S. Patent No. 5,978,414) in view of Cox et al. (U.S. Patent Application Publication No. 2003/0058929, hereafter “Cox”). Claims 4, 6, 10, 15, 17, and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

II. Rejection under 35 U.S.C. § 101

Claim 23 stands rejected under 35 U.S.C. § 101 because it is allegedly directed to non-statutory subject matter. By this Amendment, Applicant has amended claim 23 (and dependent claims 24-33) in order to comport to U.S. Patent and Trademark Office guidelines. Accordingly, the Examiner is requested to remove the § 101 rejection.

III. Prior Art Rejections

Disclosure of Nara

Nara generally relates to a system for determining an actual transmission rate of an encoded communication transmitted at one of plural transmission rates. An encoded communication is decoded at the plural transmission rates to generate decoded signals and

decoding parameters which indicate the reliability of the decoded signals (column 2, lines 40-59). One or more candidate transmission rates are identified based upon the decoding reliability parameters (the Abstract), and if there is only one candidate transmission rate, the actual transmission rate is determined to be that candidate transmission rate (the Abstract).

Disclosure of Cox

Cox generally relates to a method for providing adaptive processing in a wireless communication receiver. The receiver evaluates the characteristics of an incoming signal (paragraphs [0045]-[0050]), and based on the quality of the incoming signal, adjusts various aspects of the receiver such as the on-time correlators, the analog to digital converters, the timing circuits, the despread equalizers, and the combiner (paragraph [0059]).

Analysis

The Examiner alleges that Nara discloses all of the features of independent claim 1 and analogous independent claims 12 and 23 except for the feature “when the reliability parameter evaluated does not satisfy a confidence criterion, calculation of a refined estimate of the symbol by taking into account at least one additional propagation path from the sending means in the processing applied to the radio signal received”, as recited in the claims. The Examiner thus relies on Cox to allegedly cure this conceded deficiency. Applicant respectfully disagrees with the Examiner’s position and submits that the claims would not have been rendered obvious in view of the cited references.

Claim 1 recites in part:

calculation of an estimate of at least one symbol transmitted by sending means by applying to a radio signal received a processing taking into account at least one propagation path from the sending means; evaluation of a parameter of reliability of the calculated estimate.

Applicant respectfully submits that these features of the claims are neither taught nor suggested by the cited references, and further submits that the cited references have little or no relevance to the claimed invention.

First, there is no teaching or suggestion in Nara of “calculation of an estimate of at least one symbol transmitted by sending means by applying to a radio signal received a processing taking into account at least one propagation path from the sending means”, as recited in claim 1 and analogously recited in independent claims 12 and 23.

Applicant notes that the Examiner has not provided specific support in the cited references or even addressed this aspect of the claims. Nevertheless, Nara teaches that a CDMA receiver comprises demodulation means (202, 203, and 204) which are used to extract received symbol signals (208, 209, and 210) from two or more different multi-path components of a transmission signal (column 17, lines 14-33). The symbols are extracted by multiplying a detected digital signal with a spread code used to modulate the signal for transmission. Accordingly, there is no need in Nara to calculate an estimate of at least one symbol as claimed, since the actual symbol signal is detected.

Further, since there is no teaching or suggestion in Nara of the calculation of an estimate of at least one symbol, there can be no teaching or suggestion in Nara of the “evaluation of a parameter of reliability of the calculated estimate”, as claimed. The Examiner appears to read the claimed parameter of reliability on the “decoding reliability parameters” of Nara. However, Nara uses parameters which result from a decoding process which indicate the reliability of the results of decoding an error correction encoded signal in order to determine the transmission rate of a received communication (column 2, lines 45-51). One or more candidate transmission rates at which an encoded transmission has been reliably decoded is identified based on the decoding

reliability parameters. This clearly differs from the claimed invention, where the reliability parameter is a parameter of reliability of the calculated estimate of the symbol. The reliability parameter obtained from the estimates made by the receiver can be compared with a threshold so as to serve as a basis for making a decision with regard to the value of symbols transmitted in the relevant signal. This feature is simply not contemplated by the cited references.

Further, Cox does not cure the deficiencies of Nara

Second, there is no teaching or suggestion in Cox of the feature “when the reliability parameter evaluated does not satisfy a confidence criterion, calculation of a refined estimate of the symbol by taking into account at least one additional propagation path from the sending means in the processing applied to the radio signal received”, as recited in independent claim 1 and analogously recited in independent claims 12 and 23.

The Examiner cites paragraphs [0086]-[0090] of Cox as allegedly disclosing this feature of the claims. However, this cited portion of Cox merely discloses a wireless receiver comprising several correlators 510 which provide a portion of an incoming signal to a combiner 516, which uses an algorithm to calculate parameter values which represent time shift and phase shift and amplitude adjustment necessary to properly combine multipath signals, and which aid in the combination of incoming multi-path signals. A combiner control module alters a duty cycle of the correlators based on the incoming signal. Neither this cited portion (or any other portion) of Cox teaches or suggests the feature “when the reliability parameter evaluated does not satisfy a confidence criterion, calculation of a refined estimate of the symbol by taking into account at least one additional propagation path from the sending means in the processing applied to the radio signal received”, as claimed.

Accordingly, Applicant respectfully submits that independent claims 1, 12, and 23 should be allowable, because the cited references do not teach or suggest all of the features of the claims. Claims 2-11, 13-22, and 24-333 should also be allowable at least by virtue of their dependency on independent claims 1, 12, and 23.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

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CUSTOMER NUMBER

/Kelly G. Hyndman 39,234/
Kelly G. Hyndman
Registration No. 39,234

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